

SHORT COMMUNICATION

Calandrinia* sp. Mt Bruce (M.E. Trudgen 1544) cannot be maintained as distinct from *C. pumila

In 1976, Malcolm Trudgen collected a prostrate *Calandrinia* Kunth species just east of Mt Bruce (M.E. Trudgen 1544) that is morphologically similar to, but generally more robust than, *C. pumila* (Benth.) F. Muell. In 1995, during a flora survey for Robe River Iron Associates Angelo River orebodies project, he collected the same taxon at a site 14.6 km south-west of Mt Ella (M.E. Trudgen, M. Trudgen & S. Deluca MET 12695). As well as being robust and prostrate, these collections had large, highly branched inflorescences, flowers with ten stamens, and what appeared to be other leaves besides those of the basal rosette. He concluded that they could not be matched to any current *Calandrinia* species and coined the name *Calandrinia* sp. Mt Bruce in a report to the mining company. In 2002 this name was formally included on the census of Western Australian plants as *Calandrinia* sp. Mt Bruce (M.E. Trudgen 1544).

Benthman (1863) described *C. calyptrata* Hook. f. var *pumila* Benth. from specimens he obtained from the Balonne River, Queensland and from Nangawera to Yellowinchi (i.e. the Barrier Ranges), near Broken Hill, New South Wales. He stated, 'I am inclined to think that further specimens will prove this to be a distinct species' and indeed Mueller (1876) later recognised it as such (i.e. as *C. pumila* (Benth.) F. Muell.). These initial descriptions refer to *C. pumila* as being a small, tufted plant with a thick taproot and with radical, petiolate leaves and an ovoid-globular capsule containing numerous small, smooth and shining seeds. More modern texts, such as *Flora of Central Australia* (Tahir 1981), *Flora of South Australia* (West 1986) and *Flora of New South Wales* (West 2000), all refer to *C. pumila* as having only a basal rosette of spatulate to obovate and petiolate leaves, 5-petalled flowers with four to eight stamens each, and a somewhat membranous 3-valved capsule that dehisces circumferentially at the base to reveal numerous, small, obovoid, red-brown, shiny, smooth-colliculate seeds. Basally circumscissile capsules are a very unusual feature within the genus, but *Calandrinia* sp. Mt Bruce has this character along with seeds that are identical to those of *C. pumila*. Examination of PERTH specimens and extensive fieldwork has shown that flowers of *C. pumila* with ten stamens are common in Western Australia. It is also common within *Calandrinia* that inflorescence size and degree of branching is strongly related to plant size. The 'other leaves' on *Calandrinia* sp. Mt Bruce are leafy, opposite bracts which also occur on some larger specimens of *C. pumila* and also on *C. stagnensis* J.M. Black.

The M.E. Trudgen 1544 collection comprises specimens c. 15 cm in diameter; duplicate material of the same collection are 10 cm or less in diameter. The sheet M.E. Trudgen, M. Trudgen & S. Deluca MET 12695 has one very large mounted specimen approximately 35 cm in diameter with duplicates to 25 cm. Both collections have spatulate leaves (sometimes broadly so) with relatively long petioles, particularly M.E. Trudgen, M. Trudgen & S. Deluca MET 12695. A recent third collection, B. Morgan BMor 1178, from north of Tom Price, is approximately 30 cm in diameter with basal leaves as above. Specimens determined as *C. pumila* were variable in size. Many specimens were c. 5 to 10 cm diameter or less, but some specimens ranged between 15 and 30 cm diameter (none quite as large as the M.E. Trudgen, M. Trudgen & S. Deluca MET 12695 plant).

Plant size varied substantially within any population and in some cases apparently between different collection years for the same locations. In general, most of the largest specimens were collected from the Murchison bioregion northwards to the Kimberley, but many smaller collections also occur throughout the same regions. Specimens also show great variability in basal leaf morphology (e.g. *F. Obbens*, *F. Hort & J. Hort* FO15/08 from Butchers Track, Murchison comprises specimens 5–16 cm diameter with narrowly spatulate basal leaves and both short and relatively long petioles; *F. Hort, J. Hort & A. Grosse* 2211 from Mooloogool Station, north of Meekatharra comprises specimens 4–28 cm diameter with orbicular-spatulate basal leaves on long, relatively wide petioles; *G. Byrne* 2899 from Warrawagine Station, in the Pilbara bioregion on the edge of the Great Sandy Desert comprises specimens 10–31 cm diameter with linear basal leaves and moderately long petioles).

Calandrinia pumila and *C. sp.* Mt Bruce both occur on seasonally wet flats, on gentle slopes in association with drainage lines and around swampy ground or in claypans.

Bentham (1863) cited two collections under *C. calyptрата var pumila* from Queensland and New South Wales. While Mueller (1876) later elevated this taxon to species level, a lectotype has never been chosen. It is evident that the specimens cited by Bentham need to be located and examined to fully clarify our understanding of this widespread species; however, there is no consistent evidence to support *Calandrinia sp.* Mt. Bruce (M.E. Trudgen 1544) as a distinct taxon and it is regarded here as part of a broadly circumscribed *C. pumila*.

Taxonomy

Calandrinia pumila (Benth.) F.Muell., *Fragm.* 10: 68 (1876). *Calandrinia calyptрата var. pumila* Benth. *Fl. Austral.* 1: 175 (1863). *Type*: ‘Queensland. Balonne river, Bowman. N.S. Wales. From Nangawera to Yellowinchi, *Victorian Expedition*.’

Calandrinia sp. Mt Bruce (M.E. Trudgen 1544), Western Australian Herbarium, in *FloraBase*, <http://florabase.dpaw.wa.gov.au> [accessed 29 May 2014].

Specimens examined (previously ascribed to *C. sp.* Mt Bruce). WESTERNAUSTRALIA: 5 miles E of Mount Bruce (2.3 miles along track opposite Mindi Springs track), 21 Jan 1976, *M.E. Trudgen* 1544 (PERTH); 14.6 km SW of Mount Ella, 18 May 1995, *M.E. Trudgen, M. Trudgen & S. Deluca* MET 12695 (PERTH); c. 15.4 km SW of the intersection of Nanutarra to Munjina Road and Hamersley Road, 37.4 km N of Tom Price and 107.7 km SE of Silver Grass Peak, 31 May 2011, *B. Morgan* BMor 1178 (PERTH).

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References

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